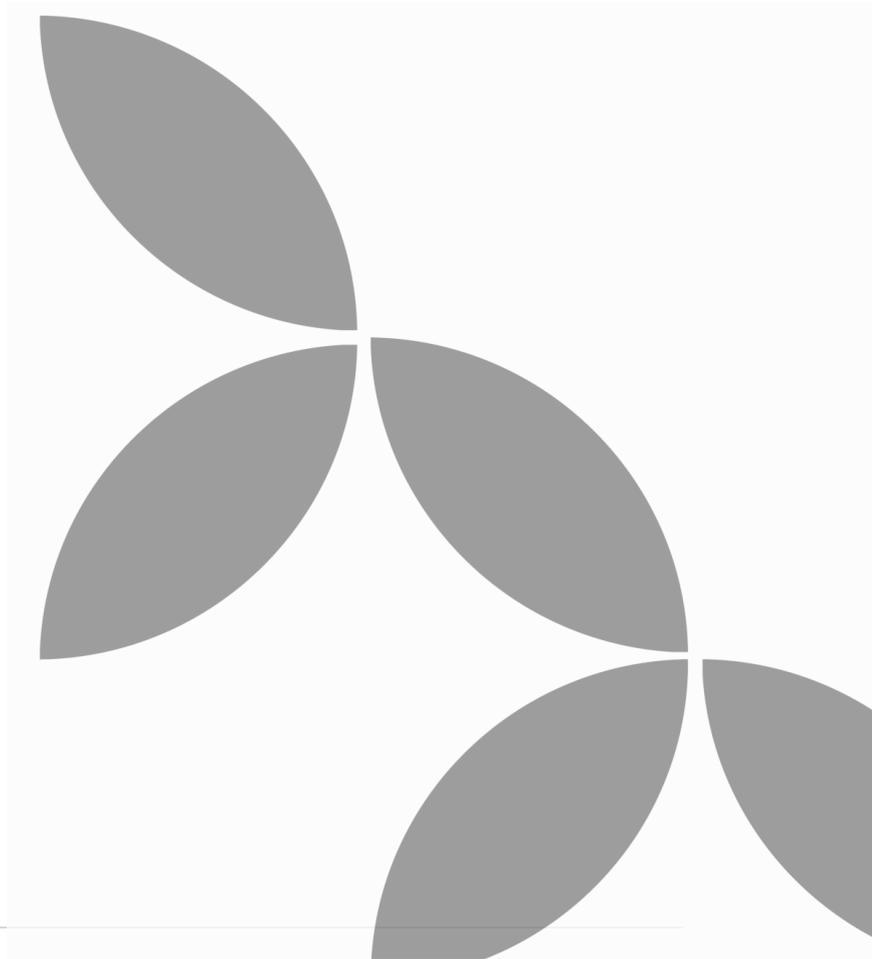




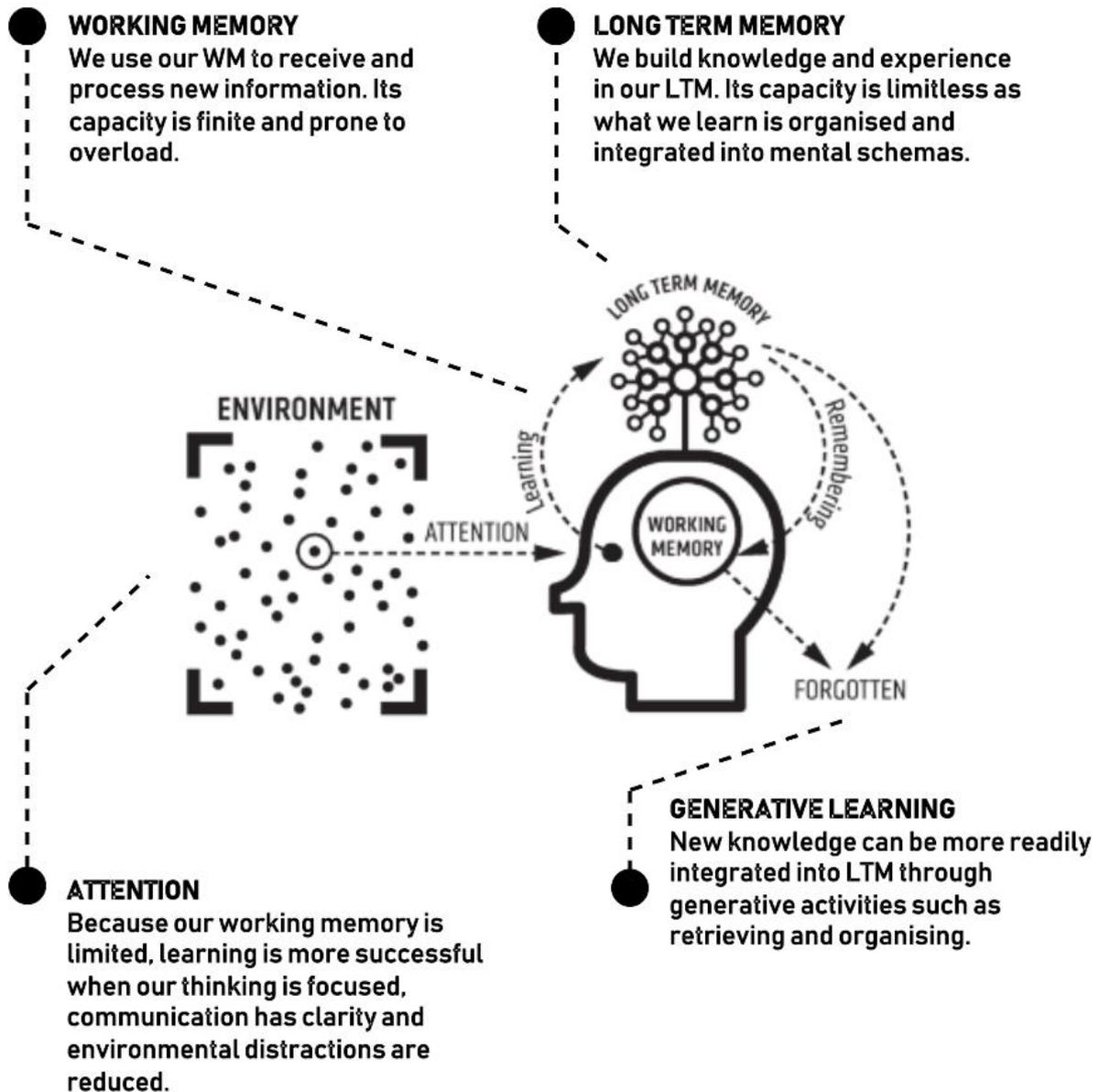
Rossett School
Success for everyone

Revision Strategies Guide



MEMORY – THE SCIENCE OF LEARNING

In recent years, there has been lots of research around the science of learning and how we learn and retain information. Below is a diagram that summarises 'How we learn'.



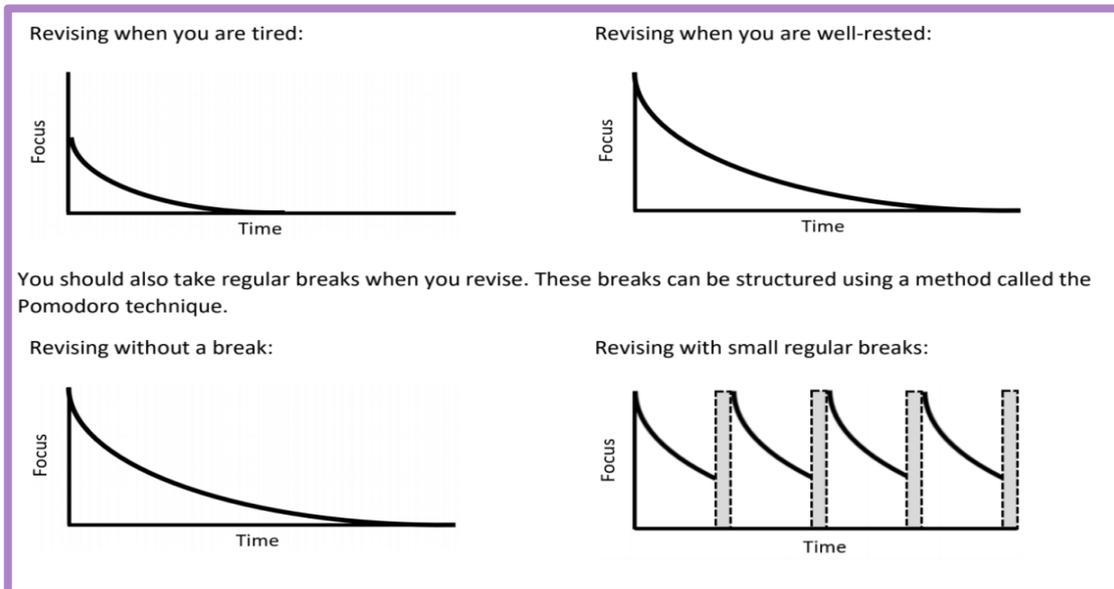
In summary, what do we know about **memory**?

- **Consistent practice** and revisiting previous material strengthen memory and boosts learning.
- Our working memory is finite and limited and so overloading this or cramming for revision doesn't work.
- Information, if not revisited, is 'lost' from our memory.

WHEN AND HOW SHOULD I REVISE?

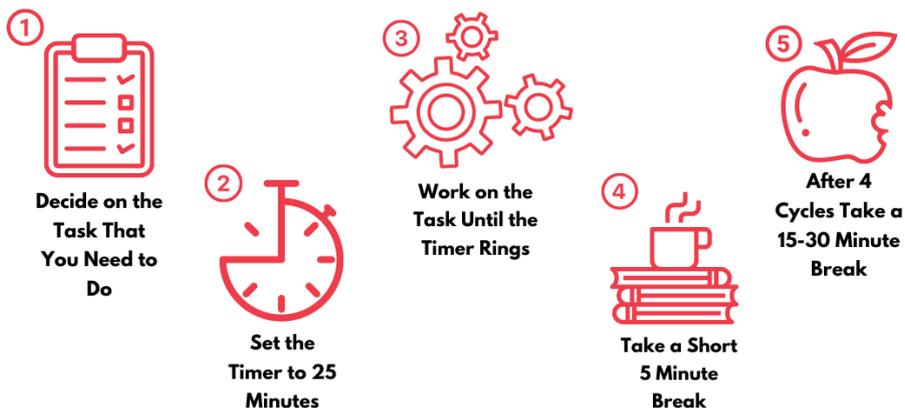
When should I revise?

To revise effectively, you have to think hard. Thinking hard is tiring. Therefore, when you revise, you should choose a time when find it easiest to focus. This should be a time when you are well-rested and when you are used to working.



Managing your time when revising

Pomodoro technique is **highly effective** as it helps you effectively manage your time and work on a task without distractions. It is also beneficial as it helps you become more disciplined and think about your work. This technique is designed to combat multitasking and improve concentration.



Do:

- Get into a routine of revising at a particular point every day.
- Revise when you are well-rested or at a time when you are used to working.
- Take regular small breaks.

Don't:

- Study only when you want to revise.
- Revise late at night or when you are tired.
- Try to force yourself to work for long periods of time without a break.

THE PRINCIPLES OF EFFECTIVE REVISION

RETRIEVAL PRACTICE/SELF QUIZZING

Simply put, recalling information from memory is simple and powerful. Retrieval practice is a learning strategy which makes you think hard and brings information to mind. It is the action of actively retrieving knowledge that boosts learning and strengthens memory. **It means trying to remember previously learned information as opposed to simply re-reading it.** It builds confidence over time and allows you to identify gaps in your knowledge.

Examples include:

- Knowledge quizzing, low stakes testing and multiple-choice tests.
- Completing past paper questions or practice answers.
- Answering verbal questions asked by teacher/peers/parents.
- Summarising, creating flashcards or revision materials where you can self-quiz or 'test' yourself.



Self-quizzing is essential. Start by spending time reviewing a topic/unit before **quizzing/testing** yourself **with no notes and from your memory (this is vital for revision).**

Once you have finished, check your answers. **This will support you in showing where your 'knowledge gaps' are and where focus needs to be in your future revision.** Revision shouldn't keep you in your comfort zone, you need to be thinking hard and identifying your own areas for development. Avoid simply revising topics you enjoy.

For example:



DELIBERATE PRACTICE: EXAM PAPER PRACTICE

Practice should involve **applying the knowledge and skills** you need to succeed so may involve exam questions or planning answers.

Past Paper questions. You need to **practice examination questions**, over and over, **well-spaced over time**. The effect of exploring worked examples or exam answers, as well as writing your own, helps you process, practice, and refine your revision to meet the parameters of exam success. Places to find exam papers are sign-posted in each of the subject areas of this website but you can also find them on exam board websites.

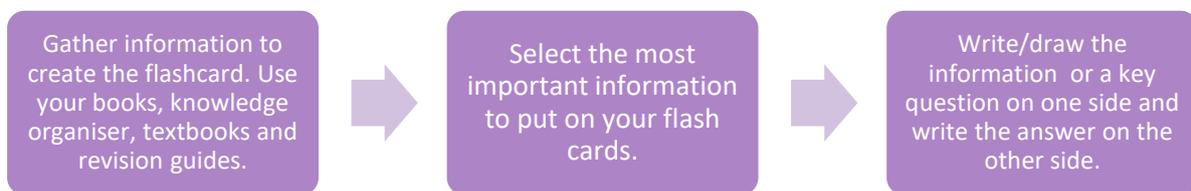
SELF QUIZZING USING FLASHCARDS

One particularly effective strategy is the creation and use of **flashcards**. Flashcards are generally a card containing a **small amount** of information on either side as an aid to learning. The use of flashcards is for **low stakes testing** to improve **recall** and to **strengthen memory**.



An effective flashcard may include the following (*in each subject they will be used in a different way*):

- A key term/key word with definition on the back.
- A key date with the event on the back.
- A key equation with its use in practice on the back.
- A past paper question/plan and a model answer on the back.



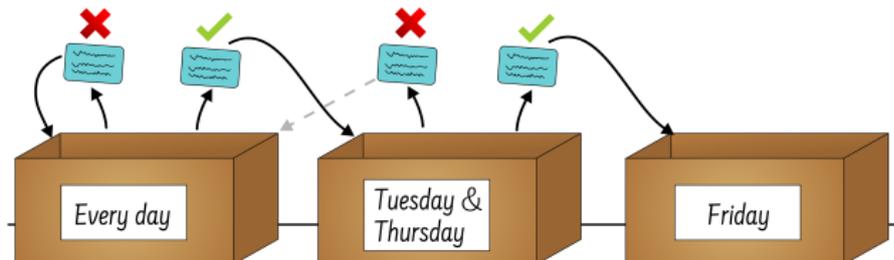
www.quizlet.co.uk has several pre-created quizzes. Teachers will also share relevant quizlets with students.

How to use Flashcards

To use flashcards most effectively, the **Leitner System** is a desired strategy for spaced testing. Once you have created a set of flashcards, create three boxes/areas marked as the following.

BOX 1: Every day	BOX 2: Twice a week	BOX 3: Once a week
----------------------------	-------------------------------	------------------------------

- Test yourself on the flashcards in the Box 1 pile. If you get the answer correct on the flashcard, move it to the Box 2 pile. If you get it incorrect, it stays in Box 1.
- Twice a week, test yourself on the flashcards in Box 2. If you get the answer correct on the flashcard, move it to the Box 3 pile. If you get it incorrect, it stays in Box 2. The aim is to get all the flashcards to Box 3



If using Quizlet you can star the card which makes it come up more frequently. This video will help support you in using the Leitner system:

<https://www.youtube.com/watch?v=C20EvKtdJwQ>

SUMMARISING AND CHUNKING INFORMATION

Chunking information into manageable chunks to revise is a powerful strategy as it aids motivation and ensures your working memory is not overwhelmed.

1. **Breaking up the information into paragraph or section chunks** – this ensures you can work through, revise, and learn, one part of the text at a time. Give each section a heading to support your understanding.
2. **Only highlight the core information and do not highlight everything** - what is needed?
3. **Take out the information you have highlighted, and bullet point it onto a revision card** – use this knowledge to explain the 'story' and narrative and to test yourself.

Muhammad Ali, arguably the greatest boxer in the history of the sport. He was born in 1942, in Louisville, Kentucky in the United States. He was named after his father, Cassius Clay, Sr., who was named for the 19th century abolitionist and politician Cassius Clay. He changed it to Muhammad Ali in 1964. He became a boxer at the age of 12. As an amateur boxer he won many titles, culminating in the Light Heavyweight gold medal in the 1960 Olympics in Rome, Italy. When Ali returned home to the states, he was so proud that he wore the medal around his neck wherever he went. After a week, he went to a café and ordered a drink. The waiter said "I'm sorry, we don't serve coloured people". Ali was so incensed by this! He had represented his country, won the gold medal, and came back to this kind of treatment. Muhammad Ali ripped from his neck and threw it into a river. Ali turned professional at the age of 18. Ali's record was 100 wins, 5 losses when he ended his amateur career. Ali became the World Champ at the age of 22. Clay was famed for his unorthodox fighting style. Rather than match his opponents with brute force, Clay brought tactics and strategy into the ring. With his fast-moving style, he was equally adept at dodging a punch as at delivering one. His fancy footwork soon became known as the 'Ali shuffle'. Ali also fought a great psychological game, often beating fighters before they stepped foot in the ring. It was in the pre-fight build up to his first world title fight with Sonny Liston that Ali famously said "I will float like a butterfly and sting like a bee". In 1967, when Ali refused on religious grounds to be drafted into the US army to fight in Vietnam, he was stripped of his title and banned from boxing, two decisions he successfully overturned in court. This he achieved by defending himself brilliantly without a lawyer. In 1971, Ali lost the title to Joe Frazier. Ali went on to win it back and then fought in two of the most famous fights in the history of boxing; The Rumble in the Jungle, versus George Forman and The Thrilla in Manilla, again versus Joe Frazier. Ali is the only boxer to have held the World title on 3 separate occasions. Ali retired from professional boxing in 1981, at the age of 39, with a career record of 56 wins and 5 losses, and as a three-time World Heavyweight Boxing Champion. Throughout his boxing career Ali was won over 50 million \$. Muhammad Ali became a Muslim around the age of 22, and a member of a group known as the Nation of Islam (or the Black Muslims) and was inspired by the teachings of Malcolm X. Muhammad Ali has been married 4 times and has had nine children. There have been many films made of his life, most recently with Will Smith in the title role. Ali was awarded the coveted title of 'Sportsman of the Century' by the BBC in 1999. Although suffering from Parkinson's disease, Ali still makes many public appearances. He refuses to allow his disability to beat him. He travels around the world doing great work for charity.

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<p><u>Born:</u></p> <ul style="list-style-type: none"> • 1942 • Kentucky • Cassius Clay • 1964 • 12 	<p><u>Boxing:</u></p> <ul style="list-style-type: none"> • 1960 Rome Olympics • Professional at 18 • 100 wins, 5 losses at amateur
<p><u>World Champion:</u></p> <ul style="list-style-type: none"> • 22 • 'Float like a butterfly, sting like a bee' • Vietnam 1967 • 3 times World Champion • \$50 million 	<p><u>Life:</u></p> <ul style="list-style-type: none"> • National of Islam • Married 4 times • 9 children • BBC Sportsman of the Century 1999

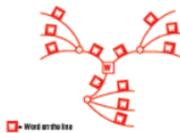
DUAL CODING AND GRAPHIC ORGANISERS

You need to be active in revision, not just reading your notes and doing some colouring in with a rainbow of highlighters. Graphic organisers are a handy vehicle to get you reconstructing your revision topics, making meaningful links and connections (in cognitive science, this is labelled the 'generation effect'). A concrete example would be using **a mind map** to summarise a topic or concept. Selecting the key information from your revision means you will have to think more carefully about what you write. It is more beneficial than copying.



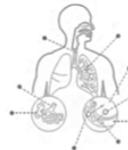
Timelines

These can show the events that happen in a sequence, and the links between these events.



Mind Maps

These allow you to group information in branches from a central theme



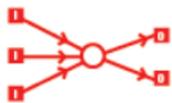
Diagrams

Diagrams to annotate key information e.g. biological features about the body.



Story Boards

These can help you remember the key parts in a story or event



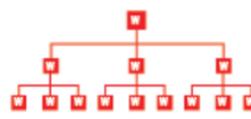
Flow Diagrams

Use flow diagrams to highlight cause and effect, input/output and processes



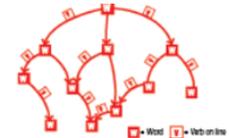
Venn Diagrams

Useful to compare change/continuity in history or characters in English



Graphic Organiser

These can chunk any aspect of a topic; hierarchy, process, cause/effect etc.



Concept Maps

Use to highlights links between themes, concepts and ideas.

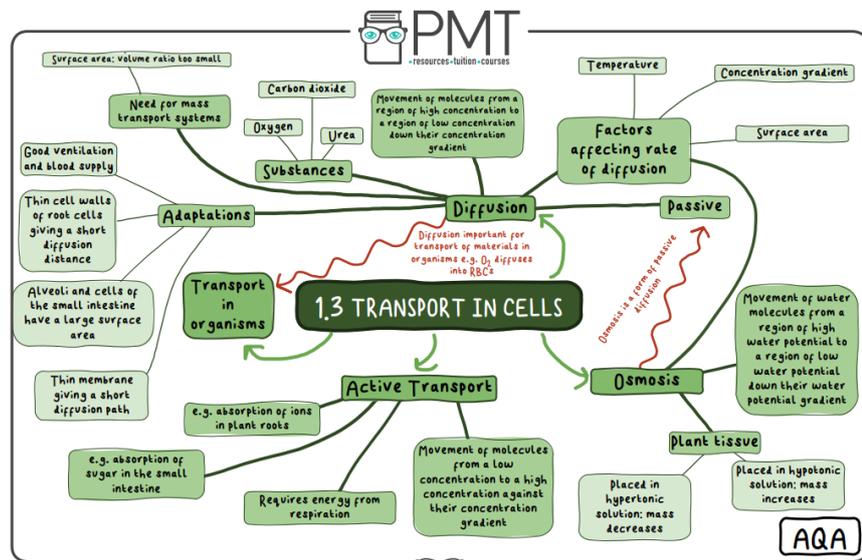
How to create a mind map

#1 Write or draw the main topic or concept in the centre of the sheet of paper.

#2 Write down any information you can think of that is relevant to the subject, add sub-topics and link them back to the main theme.

#3 Depending on the complexity of your mind map and the topic, add more branches to the sub-topics. You can draw lines to connect ideas that are related.

#4 When your mind map is complete, review the visual representation and use it to deepen your understanding of the main topic



EFFECTIVE REVISION STRATEGIES – WHAT DOES WORK



Brain Dump

Choose a topic and write down as much as you can remember, without referring to your notes. Check your notes and see what you missed then try fill the gaps without the notes. Check your notes a third time and add the missing information.



Flash cards

Write flash cards for each topic, in all subjects, then mix them up for the most effective revision. Check out the Leitner System for effective spacing and interleaving. Keep your flash cards simple – one question, one answer per card.



Plan it out

Take an essay question or writing question and map out your answer, without writing a full response. Look at the mark scheme and decide if your plan meets the criteria. DO this for a number of questions, then choose one and write the full response.



Past papers and Mark schemes

Ask your teacher for practice questions or exam papers. Complete them without notes in the exam conditions, then check your answers using mark schemes and identify the gaps in your knowledge, so you can target your revision.



Self-Quizzing

Write a set of questions and answers and ask someone to test you. It's important to either write or say your answers loud. Reading through quizzes in your head can give you a false sense of security.



Thinking hard: Reduce

Read a section of your notes then put them aside and reduce what you need into 3 bullet points, each one no more than 10 words. Look back at the notes and decide if you missed anything important. Hide the notes and write a fourth bullet point.



Mind Map

Create a mind map to summarise the information that is relevant to a key theme, topic or question. The deeper the knowledge and complexity of the topic the more branches to sub-topics and ideas you will be able to add.



Transform (Dual code)

Read a paragraph from your notes or a text book, and transform it into a diagram, chart or sketch – no words allowed. OR Look a diagram in science, for example, and transform it into a paragraph of explanation.



Key vocabulary

For a particular topic, make a list of key vocabulary, then do the following: define each word; use each term in a sentence; create a question where the key word is the answer; identify other words which connect to each of the words in your list.

Red =Core Four Strategies

INEFFECTIVE REVISION STRATEGIES – WHAT DOESN'T WORK

With the above in mind, it is vitally important to think about strategies that students may employ that have a limited or no real benefit on learning or memory. These include:

- Simply writing out notes or copying from a textbook/exercise book.
- Cramming revision to the 'final minute' overloads your working memory so you can't learn at all. It can also cause stress/anxiety before exams.
- Re-reading and doing nothing with the information. Trying to focus on 'too much information' on a single page and cramming revision.
- **Highlighting** information for the sake of it.
- Not enough silent work or attention to a given task. Attempting to revise while multitasking and doing other things.
- Comfort zone revision of easy material that pupils have already mastered because it makes you 'feel good'.

DEVELOPING REVISION ROUTINES AND HABITS

Within your revision, it is vitally important to establish a strong routine. Having goals are good for setting a direction. What do you want to achieve in *this* revision session? Habits are incredibly powerful in helping you to succeed. **Getting one percent better every day counts for a lot in the long run.**

To support the forming of good revision habits, there are a few areas to consider:

- **Make it obvious** – revise in one area, leave your materials out ready to support organisation and ensure routines are stuck to. Ensure your environment is clear, uncluttered and comfortable.
- **Start small and build up** – reduce distractions where and when you revise and get your family to encourage the creation of a revision timetable and placing it somewhere visual in your house. Ensure someone else is knowledgeable of this timetable to enable accountability and aid support. Start revising for a short amount of time and build up over time.
- **Make it attractive** – collaborative focused revision (with friends) is beneficial (alongside attending interventions or revision sessions) but you could also ensure there is a 'reward' at the end of a revision session. *If I complete this, I can do this.* Write a revision contract.
- **Make it satisfying and rewarding** – challenge yourself, track your own revision progress and ensure you stick to your revision timetable. Small steps build success and motivation.

CREATING AN EFFECTIVE REVISION ENVIRONMENT

Goals are good for setting a direction, but systems are best for making progress. We know that working memory can only hold a small amount of information at once. Therefore, to revise and learn effectively, you should use techniques which free up your working memory and stop it from being overwhelmed. One way is working in an environment which is free from distractions.

Find a quiet, tidy room with minimal distractions – your bedroom, library or classroom.

Put your revision timetable, exam timetable and other documents visible on your wall

Make sure you have a drink and snack with you, staying hydrated and full is important



Put your phone in another room, it is too much of a distraction -

Loud music is a distraction, if you must listen, it needs to be low tempo, without lyrics

Have all your revision materials and stationary on your desk ready to go - make it obvious

Whilst **phones** are a brilliant intervention, research has found that they have a negative impact on revision and learning. It can reduce concentration, impacting working memory, impact your sleep due to bright lights and distractions, reduce your motivation to reduce and through listening to music, you are more likely to remember the lyrics to the song than the material you are revising.

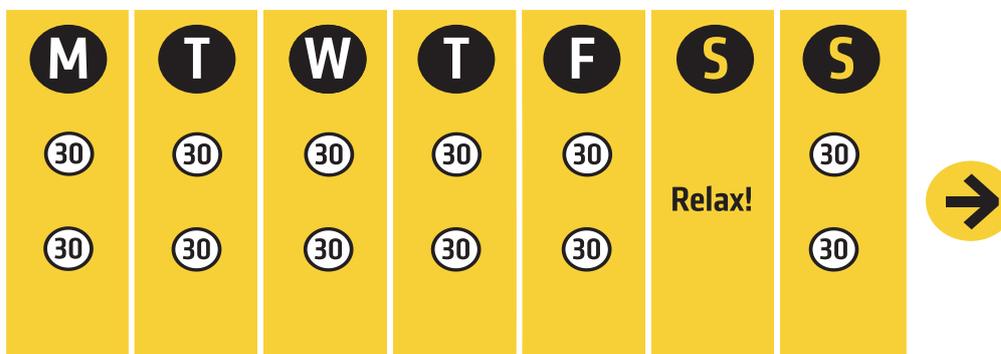


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SPACING AND INTERLEAVING – PLANNING YOUR REVISION

Spacing out your revision into smaller chunks over a period helps you to remember the material better and ensures you are less stressed with your revision. This ensures you are not **cramming** as it will overload your memory and make you overconfident. By leaving time between revising and testing, the harder your brain works, the more chance of remembering.

Instead of mass practice, a much more effective way of revising is to space out your revision like this:



By breaking up your revision into 30 minute chunks and spacing out the time between revision, you will consolidate what you have learned and retain the material much more effectively.

Interleaving involves switching between ideas and topics during a study session and not revising in blocks of topics. This ensures that you are not studying one idea or topic for too long. Mixing up your revision and chunking it supports learning and strengthens your memory as we know you need to review information over time to reinforce learning. *If a subject involves a narrative (story), revise this in one piece.*

Blocking



Interleaving



CREATING A REVISION TIMETABLE

1. Collate all your topics and determine where you need to focus your time. Which subjects and topics do you need to target?
2. Create a table for a week with 30-minute revision slots and breaks built in. (Remember **Pomodoro**)
3. Write the subjects in the table, leaving yourself at least two days between each.
4. Type it up so you re-use it and edit it. Ensure it is easy to check and find.
5. Put it somewhere visible and tick off completed sessions = see the success! Ensure someone at home also has ownership of it. It will support motivation.

For an example revision timetable, see below. *This involves only English, Maths, Science and R.S to show how a timetable may look but please ensure all subjects are included depending on the focus at a given moment.*

REVISION

* = revise if possible
 // = no revision/break

TIME	MON	TUES	WED	THURS	FRI	SAT	SUN
8:30-4:30	school	school	school	school	school	*	*
4:30-5:00	media	chemistry	media	maths	english	maths*	//
5:00-5:30	english	chemistry	media	maths	english	maths*	//
5:30-6:00	//	//	maths	english	media	//	//
6:00-6:30	english	english	//	//	//	//	//
6:30-7:00	maths	english	//	//	chemistry	//	//
7:00-7:30	//	//	english	chemistry	//	*	biology
7:30-8:00	//	//	physics	chemistry	//	*	media
8:00-8:30	maths	biology	//	//	chemistry	english	//
8:30-9:00	maths	maths	maths	biology	physics	english	//
9:00-9:30	//	//	//	//	//	//	//
9:30-10:00	biology	maths	biology	biology	phys*	//	//
10:00-10:30	media	physics	biology	media	phys*	//	//
